

Notice of Allowability

Application No.

09/841,757

Examiner

J. Derek Rutten

Applicant(s)

PLUMMER ET AL.

Art Unit

2122

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment filed 04 October 2004.
2. ☒ The allowed claim(s) is/are 1-4, 6-15, and 17 (renumbered 1-15).
3. ☒ The drawings filed on 04 October 2004 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date 20050118.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


TUAN DAM
SUPERVISORY PATENT EXAMINER

DETAILED ACTION

1. Acknowledgement is made of Applicant's amendment dated 04 October 2004, responding to the 02 June 2004 Office action provided in the rejection of claims 1-17, wherein claims 1, 7, and 12 have been amended, claims 5 and 16 have been canceled, and no new claims have been added. Claims 1-4, 6-15, and 17 remain pending in the application and have been fully considered by the examiner.

Response to Arguments

2. Applicant argues on pages 7 and 8 of the response that the examiner has mischaracterized the reference (page 7, 2nd to the last paragraph), and that Alpern's method invocation stacks do not include the invokevirtual bytecode (page 8, 2nd paragraph). Applicant further points out that Alpern does not disclose bytecode residing in the method stack (page 8, 3rd paragraph). These arguments are made with respect to claims 1 and 2 (and 7, 8, 12 and 13) which recite "using a first opcode in the transition frame," and "using the first opcode to determine that the transition frame is associated with the static initializer." These arguments have been fully considered and are persuasive. Therefore, the rejection has been withdrawn.

EXAMINER'S AMENDMENT

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone message from Alan Hodes, Reg. 38,185, on 19 January 2005.

4. IN THE CLAIMS:

1. (currently amended) A computer-implemented method for reducing C recursion from the execution of static initializer methods in a virtual machine environment, the method comprising:

rewriting native C code associated with a static initializer as a JAVA programming language method;

using a transition frame in a JAVA ~~programming language virtual machine~~ stack to execute the JAVA programming language method;

using a native method to manipulate the JAVA ~~programming language virtual machine~~ stack; and

using a first opcode in the transition frame.

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4. (currently amended) A method as recited in claim 3 further including resuming execution at the ~~second~~first opcode after the static initializer has run.

7. (currently amended) An apparatus for reducing C recursion from the execution of static initializer methods in a virtual machine environment, the method comprising:

a means for rewriting native C code associated with a static initializer as a JAVA programming language method;

a means for using a transition frame in a JAVA ~~programming language~~virtual machine stack to execute the JAVA programming language method;

a means for using a native method to manipulate the JAVA ~~programming language~~virtual machine stack; and

a means for using a first opcode in the transition frame.

10. (currently amended) An apparatus as recited in claim 9 further comprising:

a means for resuming execution at the ~~second~~first opcode after the static initializer has run.

12. (currently amended) A computer program product for ~~substantially eliminating~~reducing C recursion from the execution of static initializer methods in a virtual machine environment, comprising:

computer code for rewriting native C code associated with a static initializer as a JAVA programming language method;

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computer code for using a transition frame in a JAVA ~~programming language~~
virtual machine stack to execute the JAVA programming language method;

computer code for using a native method to manipulate the JAVA ~~programming~~
~~language~~ virtual machine stack;

computer code for using a first opcode in the transition frame; and

a computer readable medium for storing the computer program product.

15. (currently amended) A computer program product as recited in claim 14 further
including:

computer code for resuming execution at the ~~second~~ first opcode after the static
initializer has run.

END EXAMINER'S AMENDMENT

Allowable Subject Matter

5. Claims 1-4, 6-15, and 17 (renumbered 1-15) are allowed.
6. The following is an examiner's statement of reasons for allowance:

The cited prior art taken alone or in combination fails to teach, in combination with the other claimed limitations, using opcodes in a Java virtual machine transition frame for the purpose of C recursion reduction. Specifically, the independent claims 1, 7, and 12 are directed toward reducing C recursion through the use of opcodes in a transition frame that "'know' how to invoke a particular method" (page 7 lines 4-8 in the originally filed specification), thereby avoiding the need to exit and reenter the interpreter. These limitations are present in each of the independent claims 1, 7, and 12. The distinctions provided by the independent claims apply equally to all dependent claims. Thus all pending claims 1-4, 6-15, and 17 are allowed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion


7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. Derek Rutten whose telephone number is (571) 272-3703. The examiner can normally be reached on M, T, Th, F 6:00 - 4:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on (571) 272-3695. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JDR



TUAN DAM
SUPERVISORY PATENT EXAMINER